IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A charged particle beam apparatus, comprising:
a charged particle source for producing a primary beam of charged particles,

a condenser lens for shaping said primary beam of charged particles;

beam shaping means for collimating said primary beam of charged particles;

wherein said beam shaping means is adapted to switch between a collimation of said primary beam [[to]] resulting in a width appropriate for serial imaging [[as well as]] and a collimation of said primary beam [[to]] resulting in a width appropriate for parallel imaging;

scanning means for deflecting said primary beam of charged particles; and

a sectorized detector for detecting secondary charged particles.

2. (Currently Amended) The apparatus according to claim 1, wherein said primary beam width appropriate for serial imaging is between 1 nm and 100 nm~~, preferably between 1 nm and 50 nm, and is especially preferably about 2 nm~~.

3. (Currently Amended) The apparatus according to claim 1, wherein said primary beam width appropriate for parallel imaging is between 0.5μm and 1000μm~~, preferably between 1μm and 100μm, and is especially preferably about 10μm~~.

4. (Currently Amended) The apparatus according to claim 1, wherein the beam shaping means comprises

an objective lens for focusing said primary beam, wherein said objective lens is adapted to switch between forming an image of said charged particle source in a plane

of a surface of a sample to be serially inspected and forming an image of [[said]] an aperture means in a plane of a surface of a sample to be parallel inspected.

5. (Previously Presented) The apparatus according to claim 1, wherein said beam shaping means comprises said condenser lens and said condenser lens is adapted to switch the beam width of said primary beam between a width appropriate for serial imaging and a width appropriate for parallel imaging.

6. (Previously Presented) The apparatus according to claim 1, wherein said beam shaping means is an aperture having a diameter in the range of 10 μm to 50 μm in the case of serial imaging, and wherein the beam shaping means is an aperture having a diameter in the range of 100 μm to 200 μm in the case of parallel imaging.

7. (Previously Presented) The apparatus according to claim 1, wherein said sectorized detector is a multichannel plate with sectorized anode or an array of semiconductor detectors.

8. (Previously Presented) The apparatus according to claim 1, further comprising a movable stage for supporting and moving a sample.

9. (Previously Presented) The apparatus according to claim 1, further comprising a light source for producing a light beam.

10. (Original) The apparatus according to claim 9, wherein the wavelength of the light produced by said light source comprises the range of 200 nm to 300 nm.

11. (Original) The apparatus according to claim 9, wherein the light source further comprises means for forming a parallel light beam.

12. (Original) The apparatus according to claim 9, further comprising blanking means for blanking said primary beam of charged particles.

13 to 19. (Canceled)

20. (New) A method for serially operating a charged particle beam apparatus having a charged particle source for producing a primary beam of charged particles, a condenser lens for shaping the primary beam of charged particles,
a beam shaping means adapted to switch between a collimation of the primary beam to a width appropriate for serial imaging as well as a collimation of the primary beam to a width appropriate for parallel imaging, a scanning means for deflecting said primary beam of charged particles, and a sectorized detector for detecting secondary charged particles, the method comprising:

providing the charged particle beam apparatus;

adjusting the beam shaping means for collimating the primary beam of charged particles to collimate said primary beam of charged particles to the width appropriate for serial imaging of a sample,

scanning said sample using the scanning means, wherein said primary beam of charged particles is directed to a respective position of a single pixel on said sample, and

detecting secondary charged particles by means of the sectorized detector, wherein signals produced by individual sectors of said detector are merged to form a signal corresponding to said single pixel.

Please add the following new claims:

21. (New) A method for operating a charged particle beam apparatus having a charged particle source for producing a primary beam of charged particles, a condenser lens for shaping the primary beam of charged particles,
a beam shaping means adapted to switch between a collimation of the primary beam to a width appropriate for serial imaging as well as a collimation of the primary beam to a width appropriate for parallel imaging, a scanning means for deflecting said primary beam of charged particles, and a sectorized detector for detecting secondary charged particles, the method comprising:

providing the charged particle beam apparatus;

adjusting the beam shaping means for collimating the primary beam of charged particles to collimate said primary beam of charged particles to the width appropriate for parallel imaging of a sample;

directing said primary beam of charged particles to a predetermined position on said sample; and

detecting secondary charged particles by means of a the sectorized detector, wherein the signals produced by individual sectors of said detector are individually collected.

22. (New) A method for operating a charged particle beam apparatus having a charged particle source for producing a primary beam of charged particles, a condenser lens for shaping the primary beam of charged particles, a beam shaping means adapted to switch between a collimation of the primary beam to a width appropriate for serial imaging as well as a collimation of the primary beam to a width appropriate for parallel imaging, a scanning means for deflecting said primary beam of charged particles, and a sectorized detector for detecting secondary charged particles, the method comprising:

providing the charged particle beam apparatus,

adjusting the beam shaping means for collimating the primary beam of charged particles to collimate said primary beam of charged particles to the width appropriate for parallel imaging of a sample,

producing a light beam,

directing said primary beam of charged particles and said light beam to a predetermined position on said sample, and

detecting secondary charged particles by means of the sectorized detector, wherein the signals produced by individual sectors of said detector are individually collected.

23. (New) The method according to claim 22, wherein the charged particle beam and the light beam are adjusted to cancel a charge build-up on the sample surface.

24. (New) The method according to claim 22, wherein the primary beam of charged particles is blanked by blanking means.

25. (New) A method for operating the charged particle beam apparatus according to claim 9, wherein the method of operation of the charged particle beam apparatus is switched in operation between at least two of modes SEM, SEEM, PEEM or SEEM/PEEM.

26. (New) A method for operating a charged particle beam apparatus comprising a charged particle source for producing a primary beam of charged particles, a condenser lens for shaping the primary beam of charged particles, a beam shaping means adapted to switch between a collimation of the primary beam to a width appropriate for serial imaging as well as a collimation of the primary beam to a width appropriate for parallel imaging, a scanning means for deflecting said primary beam of charged particles, and a sectorized detector for detecting secondary charged particles, said method comprising:

generating a primary beam of charged particles by said particle source;

collimating said primary beam by an aperture; and

focusing said collimated primary beam by said objective lens, wherein said objective lens is adjusted to form an image of said aperture in the working plane of said objective lens.